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THE DEVELOPMENT OF AGRICULTURAL EQUIPMENT

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THE DEVELOPMENT OF AGRICULTURAL EQUIPMENT

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1. Before the Second World War there was no abandoning of villages by their inhabitants in Yugoslavia. On the contrary, the absolute number¹⁾ of village inhabitants was constantly increasing. Small land properties²⁾ prevailed not grouped together, but consisting of a great number of small areas scattered everywhere around. A far greater part of the agricultural products went in covering the mere wants of the producers themselves, and selling of the much smaller part, meant for the market, even at the low prices of agricultural products, was very difficult. Regarding small incomes in general, and high prices of industrial products and great contributions in money to the state (income taxes and other state and local taxes) the majority of agricultural producers were not able to afford any money for enlarging their production, not even for comparatively small investments in order to apply more modern means of production, at that period there were no efforts for advancing agricultural production not even by the state, therefore agricultural services were very poorly organized and utterly inefficient.

2. In such general and economical conditions not only agriculture but all other economical branches also made a really slow increase, what resulted in stagnation of agricultural production of all farmers; applying of modern technical achievements in agriculture, without taking in consideration some rare exceptions, was almost completely left out. There were several obstacles for getting more modern agricultural equipment (even on such land properties which, regarding their size or character of their production, were able to do that), such as: abundance of not sufficiently employed hands, comparatively high prices of agricultural equipment (regarding the prices of agricultural products) as well as insufficiently trained producers who were not able to make their best of modern agricultural equipment.

(a) For the major part of areas, for a series of operations (which, however, on the whole, regarding other European countries, represented cultivation at a very low level) exclusively hands and hand-tools were used. The most wide spread handtools included shovel, hoe, sickle, scythe and rake. The only operation, not performed by hand-tools, owing to the nature of the work, was the operation of ploughing, for which besides an iron plough, a ploughshare was largely used, particularly in considerably backward hilly areas. The greatest attainment were practically tools drawn by teams, which were, when talking of ploughs and harrows, rather wide spread, while other tools drawn by teams and other machines were much less used and almost exclusively on agriculturally developed, flat areas and on large estates. Such areas and such estates comprised about a quarter of the total ploughable land or nearly 2,000,000 acres. Among tools drawn by teams and machines used on those areas were included: sowers primarily for corn

1) In 1931 in Yugoslavia there were 10,760,000 farmers, or 76%, and in 1939 11,608,000 or 75% of the total number of the inhabitants.

2) According to the census of 1931 there were to 2 acres in size 33,8%, and more than 50 acres only, 0,36% of the total number of the farms.

(all kinds except maize, grasscutters primarily for herbs, reapers for wheat, self-binders, rakes drawn by teams, etc.). The largest and most complicated, but still comparatively quite commonly used machine (which very often was not owned by an agricultural producer, but by a village shop-keeper or by a craftsman, or by some other persons) was the steamreaper. The need of finishing the reaping of cereals in the shortest possible period of time because of dangerous damages which might have been caused by weather conditions, made this machine for the owner highly profitable and especially so because he was given a large portion of cereals as a reward for his services.

(b) During the last years before the Second World War 2300 imported tractors were used in agriculture and a very limited number of machines combined with them (ploughs, disks, harrows, much more rarely sowers, etc.). Steam ploughs, tractors and reapers of a larger make, as well as other kinds of larger machines were used only by a smaller number of estates during the last years before the war. How rare a machine tractor was is clearly indicated by the fact that at average 3400 ploughable acres of land were done by a tractor, that is to say proximately about 850 acres of ploughable land in exclusively agriculturally flat areas.

(c) On the total sowing area of about 7,200.000 acres, including the total number of a little above 2,000.000 of farms, during the last pre-war years there were in use (according to the estimation done immediately after the war) about 1,300.000 ploughs of different kinds (this number did not include plough-shares), only about 48,000 sowers for corn (except maize), about 22,000 reapers and grass-cutters and about 18,000 thrashing machines of different kinds. As it could be seen from above given figures, every farm did not even possess an iron plough; sowers for corn (excepting maize) were possessed by about 2,5% of the farms, and reapers and grass-cutters by about 1% of the farms. Owing to the fact that at that time corn (excepting maize) was sown on proximately about 3,300.000 acres, the work on proximately 185 acres was performed by a thrasher. Thrashers were often used during the whole summer time, but in spite of that a considerable part of thrashing was done by using cattle or horses.

(d) More simpler agricultural equipment (tools, hand instruments, ploughs drawn by teams, harrows also drawn by teams, small sized sowers, sprayers, wind-mills and other similar machines) were produced in the country in an insufficient number, while other machines represented articles of import from developed west European countries. One can have an idea of the number of imported machines when we say that the total import of machines in 1939 amounted to about 2,541 tons. According to all other comparisons (in regard to other countries and actual needs considering the size of tillable areas) as well as according to imported quantities, the country production of agricultural machines (including tools) was very modest, and in 1939 it amounted only to 4.870 tons.

3. However estimated the equipment of the pre-war agriculture was very small. Taking into consideration such equipment, naturally, there could be no question of applying technological products at that level, applied in developed countries. On the other hand it strongly affected the amount of gained crops. Three most important cultures which in the physical volume of total plant production comprised nearly 55% in the period of 1935-39 the average crops amounted with wheat to 12.2 mtc - acres, with maize 16.8 mtc. - acres and with sugar-beet 191 mtc. - acres.

How low were these crops is clearly seen from the fact which indicates that almost in the same period of time (1934 - 38) on the territory of what is now the Federal Republic of Germany, the agriculture of which was well equipped, at the average crop of wheat was 22.1 mtc. - acres, on the territory of France 15.6 mtc - acres and Great Britain 23.1 mtc. - acres. In the same period crops of sugar-beet amounted to 356 mtc. - acres in the Federal Republic of Germany, 276 mtc. - acres in France and 221 mtc. - acres in great Britain.

4. Owing to the changed social-political and social-economical features in post-war Yugoslavia, essential changes took place in structure and organization of agriculture compared to the former conditions. In the first place, immediately after the war, the agricultural reform was carried out by means of which private properties were limited up to a maximum of 10 acres, and the estates of various banks, the church and so on, were nationalized. The social land

fund created in this was, as well as by confiscating the properties formally possessed by the enemies, were used to establish social agricultural state farms, and also partly cooperative farms. In the early post-war years a strong movement for uniting the individual producers sprang up aiming to make them all join agricultural cooperatives,³⁾ which at that period started their activities as bodies for getting and selling the goods; and later on they were transformed into producing farms of a specific character.

The subject we are making a report of was certainly essentially influenced by the whole post-war economical development, particularly by the process of industrialization, which apart from other things had a decisive influence on the general change of economical structure of inhabitants as well. The intense industrialization enabled a quick increase of employment outside agriculture. It led to a quick abandoning villages on the part of agricultural population and of its not only relative but absolute decrease. In 1961 51% of total population earned their living by cultivating the land (including forestry and fishing). All that together changed considerably the status, character and structure of agricultural farms.

5. Even in the course of the first post-war years a considerable attention was paid to agricultural mechanization in Yugoslavia. Only by using tractors and other large machines it was possible to cultivate new social collective farms, largely formed on the land of the deserted estates, which, therefore, demanded hands. Only by using big machines it was possible to cultivate the land of a great number of cooperative farms mostly formed by the people who had just been awarded land from the social land fund, and by poor farmers in general who needed badly all possible means for production including tools and machines for cultivating the land. In those early years all machines as well as a great quantity of tools were obtained by import. As one of the most efficient solutions for the use of so obtained machines, which were of highly different provenience and also not sufficient in number, was using them through so-called agricultural machine services. They were specific social enterprises, with the aim to do services in cultivating both social state farms and cooperatives, and where it was possible to give help to individual producers as well.

(a) Although these enterprises were abolished after 5-6 years while they were doing various services, they had achieved some good results in the course of their work. They enabled more efficient using of the insufficient number of machines, and that in the time when those machines were badly needed; furthermore they secured repairing and keeping in good order the machines in their work-shops; they had trained the first tractor drivers and agricultural mechanics; and finally, it was through them that the first experiences in mechanization of different processes in production were achieved, as well as in the organization and economy of work dealing with big agricultural machines etc. Agricultural machine services were abolished in 1952, at the moment when the objective reasons for their abolishment were most convenient, when social collective farms and cooperative farms had already been strong both in respect of their organization and members, and when they were capable to take into their possession not only the machines of the abolished services, but also a great number of new machines.

6. The social community, as much as it was capable, forced simultaneously both the development of the domestic industry of agricultural machines and their import from abroad during the whole post-war period. It was done in order to introduce modern means of production which would enable a much more efficient cultivation of all areas belonging to social collective farms and cooperative farms as well; and with the aim to enable the same kind of cultivating the areas of those individual producers who could not obtain the most necessary means for production, but who had found their economical interest in cultivating their land in cooperation with collective farms.

(a) The range of the pre and post-war production of agricultural tools, instruments, machines and tractors could be seen from the following table:

Year	Agricultural tools instruments and machines			Tractors		
	Output	Import	Export	Output	Import	Export
1939	4,874	2,541 ^{x)}	33	-	-	-
1946	9,511	1,289 ^{x)}	-	-	-	-
1950	17,016	2,941 ^{x)}	4	-	-	-
1951	15,252	750	12	2,595	3,143	-
1952	9,754	4,770	20	2,706	9,721	-
1953	11,780	884	476	3,104	5,913	-
1954	12,834	493	964	3,144	820	-
1955	18,595	511	628	3,073	1,262	-
1956	18,943	2,427	957	6,179	5,004	5
1957	21,952	6,000 ^{xx)}	4,428	9,427	12,000 ^{xx)}	-
1958	21,990	7,500 ^{xx)}	1,611	11,115	13,000 ^{xx)}	5
1959	27,691	4,871	1,609	13,305	4,090	-
1960	32,882	10,916	4,650	15,971	8,127	-

Table 1

x) the import of tractors is included.

xx) proximate estimation.

7. The economic policy of new Yugoslavia required grants from the Government for building domestic industry of agricultural machines. There were three reasons for that: first, it was thought that by developing domestic capacities which would produce agricultural machines and introduce the machines in general use better effects might have been achieved in the development of agriculture itself than by, perhaps, undertaking a whole series of other measures. Second, it was taken in consideration that it would be impossible to spare enough payable means for importing machines, because large investments in general were already foreseen. And third, bearing in mind, that the conditions and situation in Yugoslavia required production of suitable types of agricultural machines.

(a) Already in 1946 the production of agricultural tools and agricultural instruments in the re-established, re-constructed and enlarged capacities of domestic industry was twice greater than that in the pre-war time. In the further development of this industry both the increase of the existing capacities and the enlargement of the assortment in production were simultaneously approached. The first phase was the production of sowers, drawn by teams, grass-cutters, reapers and the like; and then also achieving the production of motor-reapers (of different type and size). In 1950 and 1951 the production of agricultural tools and of above mentioned and other agricultural machines attained the number which was several times bigger than before the war.

(b) With regard to the needs of agricultural social collective farms (having in view their structure at that time) were comparatively quickly fully satisfied with primitive machines drawn by teams, while on the contrary their needs for bought modern agricultural machines were not satisfied in the least. Namely, in that period about 7,000 of cooperative (producing) farms comprised about 25% of the total tillable land, while agricultural social collective farms comprised further 4-5% of land. At that time, the mere lack of big agricultural machines was one of the most important reasons which prevented further formation of such cooperative farms, and later on it was partly the cause for their abolishment, too. The lack of tractors and other big agricultural machines was also one of the reasons of the stagnation in crops and production of social collective farms, as well as of the poor results in their management in general. The-

before the following phase in the development of the domestic industry of agricultural machines showed an achievement in production of machines which could be combined with tractors, finally, by means of buying different licenses, in 1953 the production of tractors was achieved as well.

(c) Since 1953 both the capacities and production of agricultural machines have been constantly increasing. Nowadays Yugoslavia has such capacities which are capable to produce about 12.000 tractors of various types (with the required instruments and tools) and about 2.500 different kinds of combines, besides other machines. The total number of capacities for producing all kinds of agricultural machines, including tractors, amount to 50.000 of tons. Such an advancement of production of agricultural equipment enabled Yugoslavia to start exporting agricultural machines in spite of her being forced to import some kinds of machines. The number of machines exported during the last two years is bigger than the total amount of production before the war, and the potential capacities for further increase of export with regard both to the quality and quantity and assortment of production are really remarkable.

(d) Being developed and managed in this way, the industry of agricultural machines had to be accommodated to a number of various factors, which had to be taken in consideration. Namely, all changes in the structure of agricultural social collective farms, in the structure and technology of agricultural production, and in the organizing of the production and the work, as well as a series of other changes which took place in the post-war development of agricultural (in the first place social) collective farms, had definite repercussions on the demands which the agriculture required from the industry. First of all the farms which possessed more land asked for bigger machines, therefore every enlargement of agricultural social collective farms (what represents a never stopping process) increased the demand for big machines, and at the same time decreased the demand for smaller ones. Various other changes were characterised by similar repercussions. So, for example in the technological process which aimed to obtain 20 - 25 mtc. of wheat per acre, social collective farms could be satisfied with one type or size of a plough, or with one type and power of a tractor, and on the other hand in the technological process with the aim to obtain, for example, 50 mtc. per acre what required considerably deeper ploughing, ploughs and tractors of quite different types and powers had been demanded. Till five or six years ago the demand for thrashers was enormous. By introducing combines, which reduced wasting to a very small amount (at the same time they perform both the harvest and the thrashing on the remarkably bigger pieces of land than the biggest thrasher could perform the mere harvest) the demand for thrashers decreased in a terribly quick way.

8. All above quoted moments indicated the need of a very close coordination between the responsible institutions and industrial and agricultural organs. New decisions concerning the building of new capacities, about the aims and goals of their production etc., must have been the result of the coordination of the responsible authorities on one hand and agriculture and industry on the other. Besides that corresponding scientific institutions concerned with the problems of mechanization of agriculture had to be organized. These institutions were obliged to perform investigations of new types of machines and to suggest attentations on them. On the ground of their investigation of all factors on which the assortment of required machines depended (climate, relief, pedological structure of the soil, the structure of production, the structure and the size of a social collective farm, conditions of hands and sources of energy and so on) they were obliged to give their suggestions for the production to the industry. They also had to realise a close coordination with the constructive offices of industry. Concerning the problems of the development of agricultural equipment other aspects of very successful coordination between agriculture and industry was achieved. So for example the factories of agricultural machines took in their charge the organization of services for keeping in order and general repairing of their machines, starting to do it a few years ago. They also supply spare parts for their own machines. In certain cases the agricultural equipment industry takes care of the financment of various tests.

(a) Although regarding the above mentioned cooperation an enormous advancement was made, it cannot be said that everything is being settled without any difficulties. The problem of assortment and prices of agricultural machines is still unsolved. The industry of Yugoslavia though the demand of agricultural organizations were numerous, is not yet capable to produce quite a range of specific machines. The industry can turn upon producing such machines, too, only when the demand attains a determined level, that is only when the production, considering the amounts of goods which can be placed at markets, can reach the bulk which is to make the production a profitable one.

9. Parallely with the development of home agricultural machine industry, in the whole of post-war period Yugoslavia was importing agricultural machines. In the early post-war period, Yugoslavia imported machines mostly be-

cause the home production was scarce. Later on, when the home industry was also rather developed, our country stuck to import because the home production assortment was insufficient. We had sudden increase of import as a rule in those years, namely in those periods, when the tempo of agricultural investments was considerably increased as well (1955 and 1957), and when some other conditions for attaining a quicker tempo of agricultural production development were most suitable. Especially great import of agricultural machines was realized after 1957, when the production process was made more modern and when new forms of cooperation were applied between general cooperative farms and individual producers.

(a) Permanently struggling through difficulties in the balance of salaries, Yugoslavia was forced to import agricultural machines from various countries, and all that depended on circumstances and conditions in the period in which the import was made. The variety of brands and types of the one and same kind of agricultural machines as a result of import from many countries, had several disadvantages. First, as a rule, some of the spare parts were to be found nowhere, and the difficulties in replacing them were enormous. When, however, the means for payment were awarded and when the import of necessary parts was carried out, the trouble was how to distribute them (as one had to deal with small quantities) in order to get them to the very place at which they were very badly needed, and not by any means left in stock unused. Lacking some of the spare parts, specially in full season, people used to take off some parts of a machine and put them on another. Hence so innumerable difficulties both in the regular keeping of a machine and in general repair of imported machines. Besides every new type of an agricultural machines requires a new training of men who will work upon them. Sometimes it was only due to insufficient training of workmen that various mishandling and defects happened. It was not a few times that the imported machines which were constructed for different climate conditions or for different relief of soil, or different structure of soil, etc., were left, after certain unsuccessful efforts to be put into work, unused, in stocks of shops, or at social collective farms or at cooperative farm premises.

10. Considering all the quoted experience and difficulties that sprang up in connection with imported equipment, the orientation towards own home production of the equipment largely used was confirmed to be justified. With specific equipment, on the contrary, (e.g. with equipment in cattle-breeding, as well as some equipment for plant production as long as the use of it becomes wide-spread, then certain kind of equipment for various processes for agricultural products, etc.) the expenses of production are to indicate whether it is better to import some of the kinds of the equipment or to manufacture them in the country. Whereas with production of equipment which is to be largely applied specific Yugoslav conditions ought to have been taken into consideration, so that the production had to stick to original home conditions or modified foreign licences, with specific equipment the production according to foreign licences, could be relied upon to a great extent.

11. The present state of agricultural equipment of Yugoslavia can be seen out of the data presented in the following table which shows the capacity of land according to sectors of proprietorship on one side, and numerical state of some elementary machines according to their owners on the other:

	Measure units	Social sector		Individ. producers
		Soc. coll. farms	Gen. coop. farms ⁴⁾	
Ploughable areas	000 acr.	581	318	6,750
Tractors	comb.	15,536	16,712	3,239
Tractor sprayers of fertilizer	"	3,202	2,813	-
Tractor sowers	"	3,235x)	3,545x)	-
Combines	"	4,277	2,262	-
Lorries	"	840	1,422	-
Motor thrashers	"	772	5,645	15,807
Ploughs drawn by teams	000	-	-	1,333
Reapers, grass-cutters and self-binders		4,875x)	6,527	47,211xx)

x) tractor
xx) drawn by teams

Table 2

4) General cooperative farms have their own economies which are nothing else but social collective farms. The machines belonging to general cooperative farms are used partly to cultivate the land of these economies, and partly to cultivate the areas of individual producers.

(a) The development of the equipment in agricultural tools and machines can be judged according to the data quoted here and before, for the period after the Second World War.

Big-sized agricultural machines and modern equipment in general were introduced and owned by social collective farms in the first place. With those farms 40 acres of ploughable land were ploughed by one tractor and one combine did the work at proximately 80 acres sown with corn (excepting maize). With those farms heavy tractors do about 20%, middle-sized tractors 70% and the light ones 10% of the work. Those farms have completely mechanized the whole process of producing wheat, and now they have gradually started mechanizing the process of producing sugar-beet, maize, some kinds of forage crops, etc., too. They are striving also to mechanize as much as possible the process of production of fruit culture, too, where plantages have been intensely raised and particularly in animal husbandry where are being introduced so-called "industrial" method of producing meat, for which, beside other installations, apparatus for automatic feeding and watering and taking out manure are being installed in pigsties.

(b) Individual households, too, are much better equipped with both quoted and not yet mentioned machines. They have all kind of apparatus and machines in a larger number than before the war. However, while judging the supply of machines belonging to individual households, especially in comparing the number of certain machines in pre-war period to that of post-war time, we should keep in mind the fact that the areas at their disposal is for 12-13% smaller than in pre-war period. Besides, one should bear in mind that compared to pre-war conditions, the quality of those machines is much improved. The machines are more modern now, better in quality and considering the aim they serve, they are much more appropriate.

(c) When machine equipment of individual economies is considered, one must keep in mind that a good deal of machine capacities belonging to social collective farms is also used for cultivating the land of these economies. At least one half, as it seems, of all tractors and tractor machines as well as almost all thrashers owned by these cooperatives in fact work upon the land of individual producers. The cooperatives have specially organized work-shops of their own, that is to say particularly organized economic units which dispose of the machines with which they cultivate the land in cooperation with individual producers or they help them with cultivating the fields. In order to reduce expenses, that is to make the prices of their services lower. The cooperatives often make agreements about offering services or about cooperation only in cases when individual producers do the sowing of a particular culture on a larger scale. Their agreements of offering services or of cooperation with individual producers are made under condition that the producers should apply such technology of production which vouches for considerably greater crops per acre than the ones acquired by the farmer some time ago. They, on the other hand, with the condition that the individual producer should deal with delivery of one of the production (cooperation) offer their services on credit or they give their producers an allowance in material (generally in fertilizer and in sorted seeds). The prices of the services done by cooperatives are always such as to protect their mutual interest - for the farmer to be offered a service and the cooperative to offer a service.

(d) Out of the quoted data it may be not clear, but it is a fact that a considerable number of small private economies is still unequipped with machines. This does not happen to be because the equipment is not available at our markets, or the prices are high (compared with prices of agricultural products), but because the owners of such economies (they themselves are employed in industry, or members of their families are), have no interest either in getting the machines or in agricultural production, or they find it more convenient to turn to cooperative mechanization. Finally, in some parts of our country there are households which still live on natural production. On such households as well as on many others, there is a lot of work done by hand and by hand-tools. In agriculture of Yugoslavia sickle, scythe, and hoe can still be found and you can see hoeing, sowing by hand, picking up grapes by hand etc.

12. Comparatively great influx of various kinds of equipment into Yugoslav agriculture did not work without difficulties, and complications. In the

post-war period different problems shaped themselves, but the most expressive were: question of the most convenient organizing form for using mechanization on a large scale, then the problem of training the necessary crew - tractor drivers, combine-drivers and mechanics in agriculture, then the question of regular keeping in order and repairing of those machines which were used already, and finally the question of new type machines production which would fit better in newly created conditions.

(a) How the question of organizational form in which a total mechanization will be used was solved, was partly explained in the beginning. Namely, at first they were agricultural machine stations, and then, after they had been abolished, they were agricultural economies, producing and general cooperatives. As far as bigger economies and cooperatives were concerned, they had, as a rule, quite independent machine work-shops for repair and keeping of the machines. Economies and cooperatives were found to be more efficient in using their machines than machine stations themselves. Anyway, the scope and efficiency in using them were fully dependent on payment system. The more stimulative the system was, and the personal income of the workers depending on the achieved results, the better and more efficient the using of mechanization was.

(b) The problem of training the necessary crew for tractors and of training mechanics in agriculture was a very sharp one, especially so in the first years. That is why the entitled organizations (as, for instance, Chambers of Agriculture, associations, cooperative unions, etc.) had those workers trained at courses and special schools. The problem grew even more difficult as the men trained in agriculture were apt very often to change their profession and a tractorist felt like turning into a driver, or, as far as mechanics were concerned, they tried to get employed in industry or in other branches of economies in those branches offered them better conditions at the moment. Another difficulty was the very need (which in the early days of mechanization was not fully grasped) of having tractorists and mechanics in agriculture trained not only in handling the machines but in dealing with all possible technological operations which they had to perform.

(c) The question of a regular keeping in order and repair of machines was often a serious one, if not quite critical. First, there were not enough men who could get engaged in that work, and, second, a spacy work-shop with corresponding equipment had not been built yet. Now, according to a special programme and with means out of investment funds, a large range of work-shops for various kinds of repairs was built. Some of those work-shops were built by agricultural machine factories. The existence of big commercial enterprises, which were in charge to supply the agriculture with all necessary equipment and with spare parts, was the chief factor which made the problem, concerning supplies, solvable.

13. A better equipment in agricultural machines in general, and a better equipment in modern agricultural machines in particular, enabled us to have the same areas, as we had before the war, sown in the whole, in spite of a considerable abandoning the villages on part of their inhabitants. On the other hand, a good supply of big machines made it possible to do the sowing on about 35% of areas (almost all the areas of social collective farms and those belonging to private owners but being cultivated in cooperation with other economies) applying other modern means for production, (fertilizers)⁵⁾, means for protection, high-quality sorts, etc., in other words, to apply such technological ways which fit in a highly intensive production. This, again, enabled the increase of crops per acre in agriculture as a whole, and in social collective farms and economies in particular.

5) Total consumption of fertilizer was, before the war, only 46,673 t. (5,9 kg. per acr. of total plough. areas) that is in 1955 only 279,000 tons (36,1 kg. per acr. of total plough. areas) mounted to 1,198.000 tons (155,8 kg. per acr. of total plough. areas in 1960).

(a) The increase of crops showed itself as following:

Agriculture, total			
	<u>1935-39</u>	<u>1956-60</u>	<u>1960</u>
Wheat	12,2	15,2	17,3
Maize	16,8	18,7	23,9
Sugar-beet	191	244	294

Social collective farms			
	<u>1954-55</u>	<u>1956-60</u>	<u>1960</u>
Wheat	13	28,1	30,6
Maize	19,2	40,2	45,4
Sugar-beet	183	292	337

Table 3

Apart from their results being so good, social collective farms are not yet satisfied with the achieved crops and they are firm in working hard in order to attain a further increase.

(b) By introducing mechanization in agriculture of Yugoslavia, it could be possible to reduce the number of oxen in work compared to the pre-war situation from 1931 from 944,000 to 677,000 oxen in 1961. By reducing the number of horses and oxen at least 600 million food units were spared, which were used for increase of milk and meat production. This item presents another indirect result in agricultural production which was achieved by a wider appliance of mechanization.

(c) The increase of equipment in agriculture, apart from economical results, has in Yugoslavia some other positive social-political consequences. Namely, by putting aside the means to invest them into mechanization and into other modern ways of production, the social community makes the development of economical relations more facilitated, specially between general cooperatives and private farmers' households, and this connection is performed through various forms of cooperation which enables a gradual introduction and enlargement of modern social process of production.

